



High Performance Schools In Kentucky

Department for Energy
Development and Independence
Division of Renewable Energy and
Energy Efficiency



Overview



ENERGY STAR Program for Schools



Kentucky Energy Efficiency Program for Schools (KEEPS)



National Energy Education Development Project (NEED)



Green and Healthy Schools Program

High Performance Schools

- High performance schools join together the very best of today's design strategies and building technologies.

- Building Blocks

Acoustic Comfort

Commissioning

Daylighting

Durability

Energy Analysis Tools

Energy-Efficient Building Shell

Safety and Security

Life Cycle Cost Analysis

Environmentally Preferable Materials and Products

High-Performance Electric Lighting

High-Performance HVAC

Renewable Energy

Thermal Comfort

Visual Comfort

Superior Indoor Air Quality

Water Efficiency

Site Planning

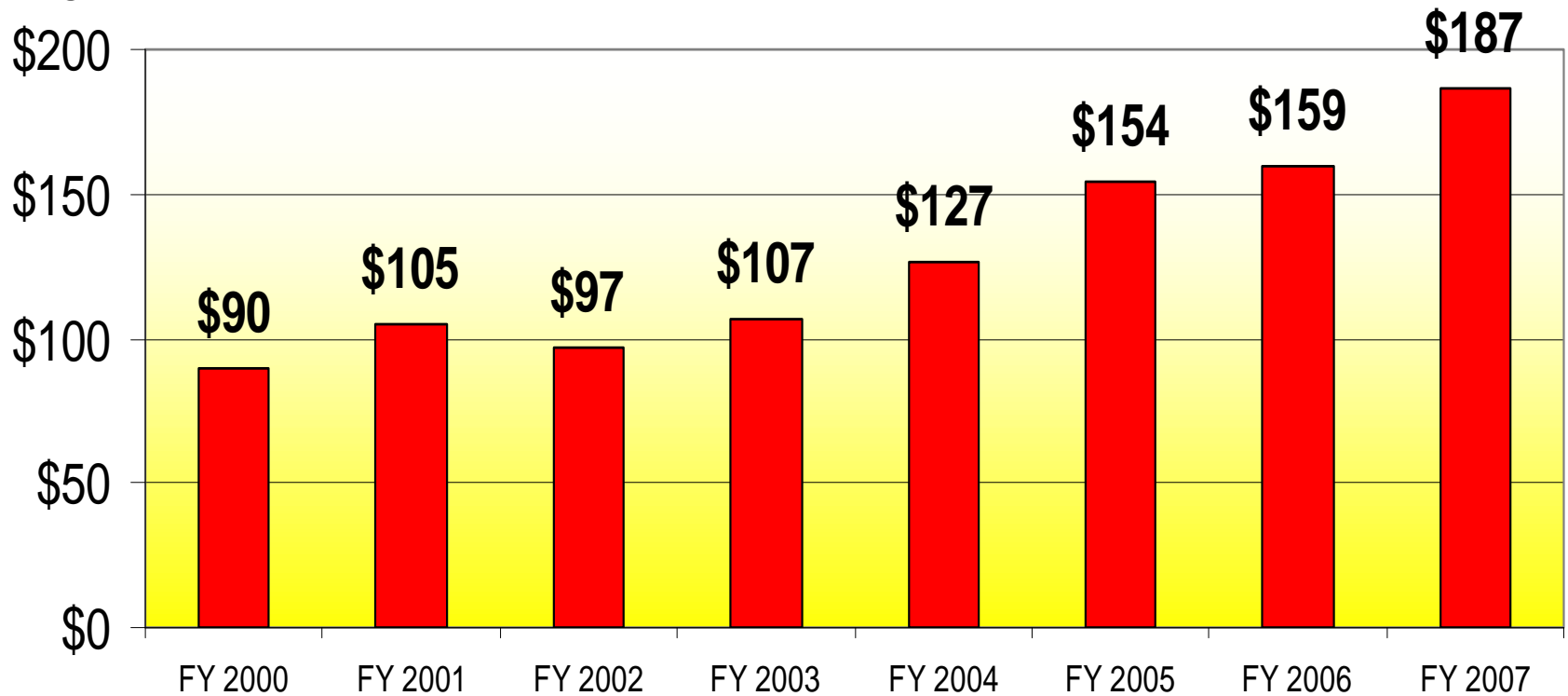
High Performance Schools

Why bother? Why build better than code?

- An improved learning environment for better performing students
- Increased average daily attendance
- Increased teacher satisfaction and retention
- Protection of natural resources
- Opportunities to use facility as a teaching tool
- Reduced operating costs

K-12 Energy Expenditures

\$ million



Energy cost
per student

Fiscal Year	Energy cost per student
FY 2000	\$159.00
FY 2001	\$185.00
FY 2002	\$170.00
FY 2003	\$188.00
FY 2004	\$221.00
FY 2005	\$266.00
FY 2006	\$274.00
FY 2007	\$319.00

Total Energy Expenditures **Up 108 percent** since FY 2000

High Performance Building Guidelines



- **ENERGY STAR CERTIFICATION**
ENERGY STAR PROGRAM

- **HIGH PERFORMANCE BUILDINGS**
SUSTAINABLE BUILDINGS
INDUSTRY COUNCIL (SBIC)



- **Leadership in Energy and Environmental
Design (LEED) CERTIFICATION**
US GREEN BUILDINGS COUNCIL (USGBC)



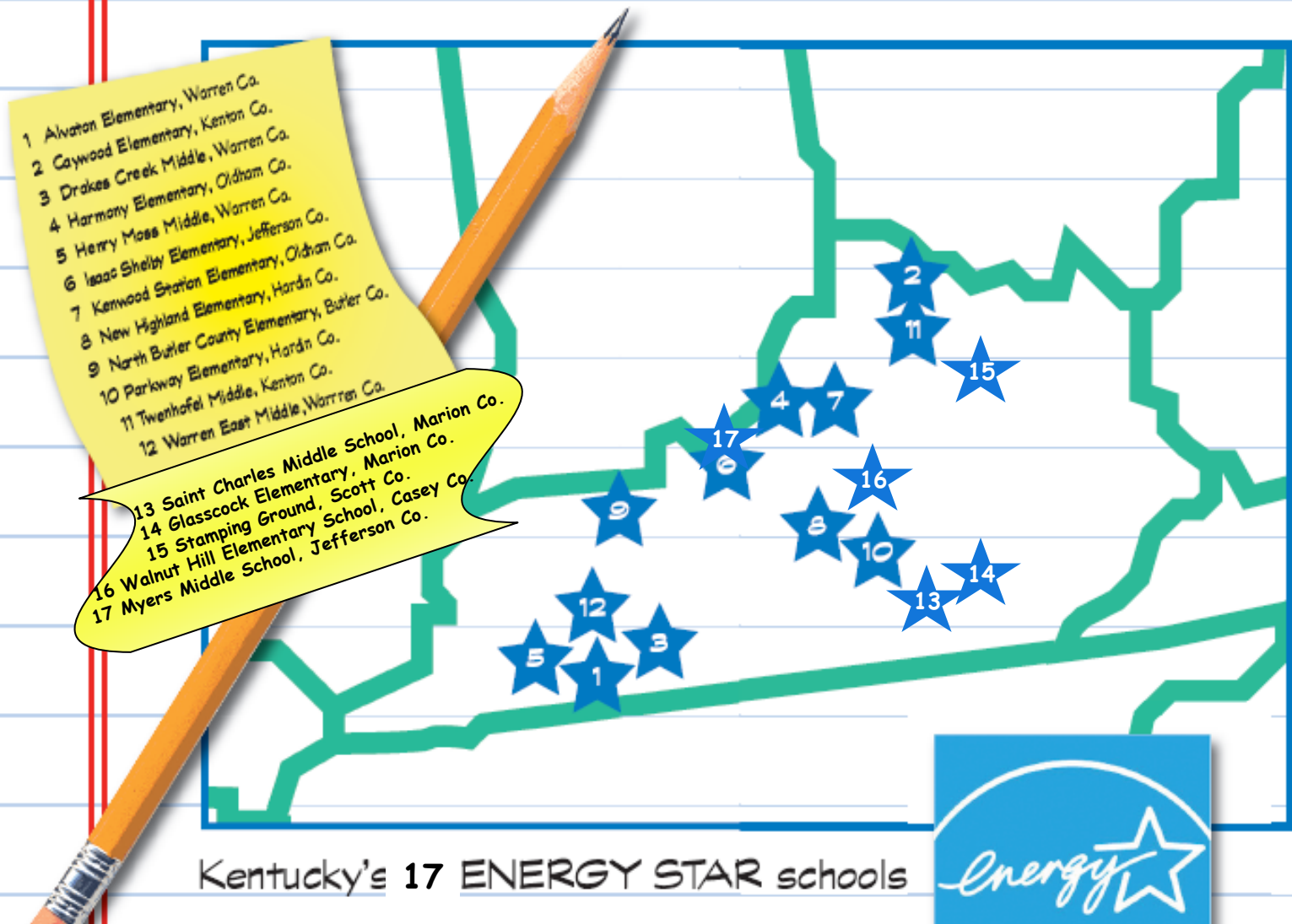
ENERGY STAR Buildings



ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency.

- **Focus is to improve building energy efficiency**
- **Establishes benchmarks, certifies performance on energy use**
- **Ratings validated by third party professional engineer**

ENERGY STAR Schools in Kentucky

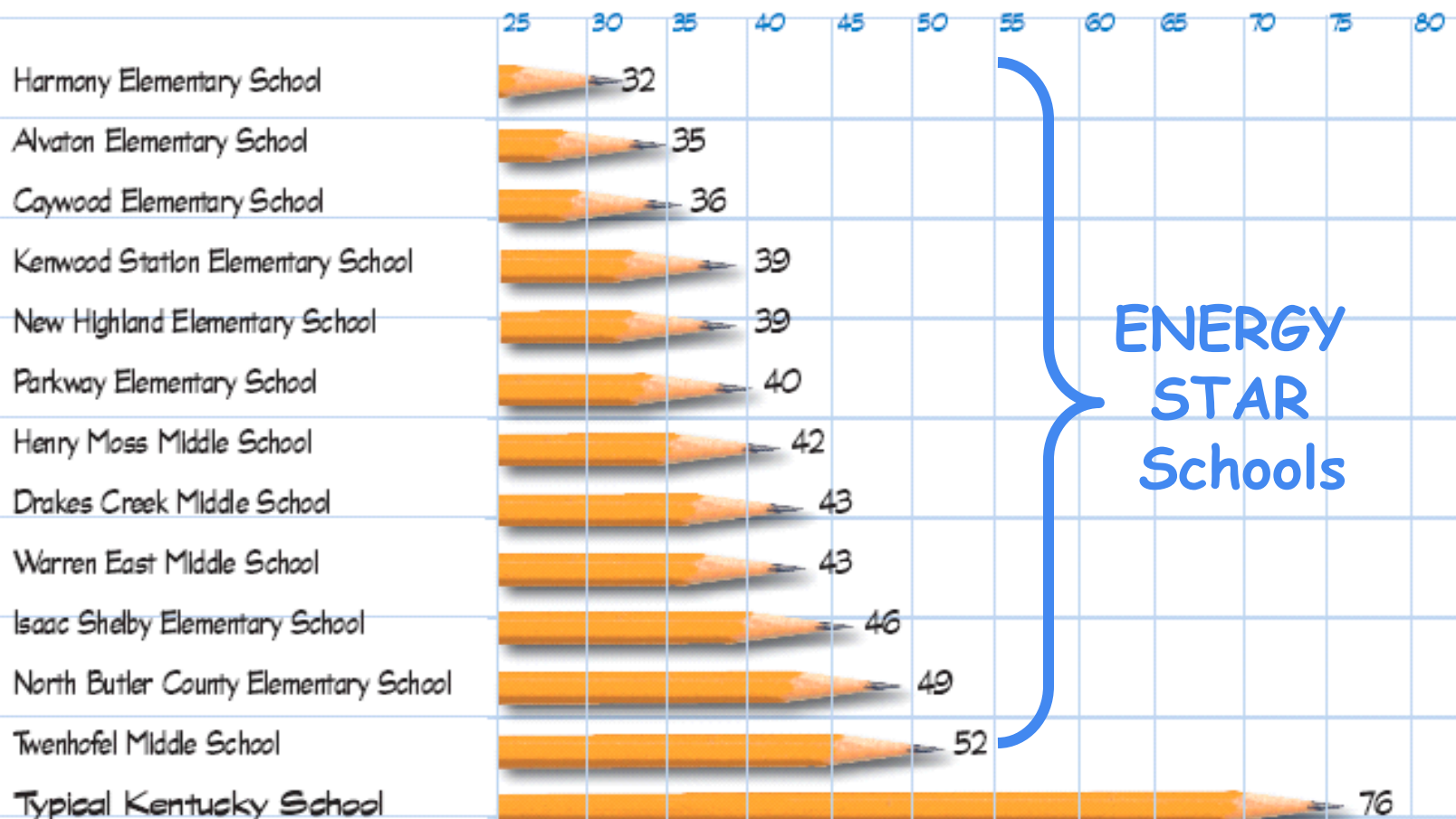


ENERGY STAR Schools in Kentucky

How does your school rate?

ENERGY STAR Schools

kBtus/sf/year



Kentucky Energy Efficiency Program for Schools



KEEPS offers a complete package of tools, training, coaching and expertise to assist school districts in developing a systems approach to energy management.

KEEPS

- Helps Kentucky school districts reduce energy use & save money - ENERGY STAR 7-step program
- Emphasizes the benefits of proactive energy management & responsible environmental stewardship
- Educates school administrators and facilities managers on how their actions affect energy consumption
- HB 2 - 2008 Legislation: All public school districts be enrolled into KEEPS by January 2010.



KEEPS Impact

Bullitt County School District

- **07 – 08 Over \$246,000 in Avoided Costs**
7 percent of total energy costs for the year

Kenton County School District

- **07 – 08 Over \$284,000 in Avoided Costs**
6.5 percent of total energy costs for the year



Kentucky Energy Education Programs



Kentucky NEED



Kentucky Green and Healthy Schools

Kentucky NEED Project



Kentucky NEED promotes an energy conscious and educated society by creating effective networks of students, educators, business and community leaders to design and deliver objective, multi-sided energy education programs.

NEED and your Schools

- Teachers and students receive training and materials
- Support from the Kentucky NEED staff
- Service learning projects
- Youth Awards for Energy Achievement
- Recognition at the state and national level

Kentucky NEED Schools

- In 2008
 - 16 NEED school workshops conducted
 - 436 teachers trained
 - 38,848 students supported
 - Two Kentucky schools nationally recognized



Kentucky Green and Healthy Schools



KENTUCKY
Green & Healthy
Schools

Home Getting Started Exploring your School Environment Building a New School Help / FAQ Login

What is a Green & Healthy School?

Why Become a Green & Healthy School?

Taking Action

Keeping the School Green & Healthy

Participating Schools

Awards Process

Contact Us

Printer Friendly

Home

What ifwe could have schools that would help reduce such illnesses as allergies and asthma and therefore improve attendance?

What if.... we could have schools that helped improve the cardiovascular health of our children and reduce obesity?

What if.... we could have schools that protect and conserve the environment for the future use of the children who go to those schools now?

What if.... we could teach our children to take personal responsibility for the environments in which they live and learn?

What if.... our children could learn to think critically and communicate effectively as they work together to solve problems?

What if.... our children could to learn the core content as they carry out rigorous, relevant research?

Good News!!! With today's technology and knowledge we can in

How does G&H work

- **Kids conduct school inventories in eight areas.**

energy	hazardous chemicals
indoor air quality	green spaces
water	solid waste
health and nutrition	transportation
- **Based on what they find, they design and carry out improvement projects in each area.**
- **Depending on how many improvement projects they complete, the school receives recognition awards.**



Green and Healthy Schools

- 82 public and private schools enrolled
- Winner of National Excellence in Green Building Curriculum Recognition Award



Program Advisors



Lee Colten – ENERGY STAR Program Manager DEDI



Cam Metcalf – Executive Director, KPPC – Kentucky's Resource Center for Environmental Sustainability



John Noel – Executive Director, Kentucky School Plant Management Association



Karen Reagor – State Program Director, KY NEED Project



Jane Eller – Executive Director – G&HS